

What is claimed is:

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- 5           a) an amino acid sequence selected from the group consisting of SEQ ID NO:1-23 and SEQ ID NO:25-29,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NO:1-23 and SEQ ID NO:25-29,
- c) a biologically active fragment of an amino acid sequence selected from the group
- 10           consisting of SEQ ID NO:1-23 and SEQ ID NO:25-29, and
- d) an immunogenic fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:1-23 and SEQ ID NO:25-29.

2. An isolated polypeptide of claim 1 selected from the group consisting of SEQ ID NO:1-23

15           and SEQ ID NO:25-29.

3. An isolated polynucleotide encoding a polypeptide of claim 1.

4. An isolated polynucleotide of claim 3 selected from the group consisting of SEQ ID

20           NO:30-52 and SEQ ID NO:54-58.

5. A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 3.

25           6. A cell transformed with a recombinant polynucleotide of claim 5.

7. A transgenic organism comprising a recombinant polynucleotide of claim 5.

8. A method for producing a polypeptide of claim 1, the method comprising:

- 30           a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 1, and
- b) recovering the polypeptide so expressed.

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9. An isolated antibody which specifically binds to a polypeptide of claim 1.
10. An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:
- 5       a) a polynucleotide sequence selected from the group consisting of SEQ ID NO:30-52 and SEQ ID NO:54-58,
- b) a naturally occurring polynucleotide sequence having at least 90% sequence identity to a polynucleotide sequence selected from the group consisting of SEQ ID NO:30-52 and SEQ ID NO:54-58,
- 10       c) a polynucleotide sequence complementary to a),
- d) a polynucleotide sequence complementary to b), and
- e) an RNA equivalent of a)-d).
11. An isolated polynucleotide comprising at least 60 contiguous nucleotides of a
- 15       polynucleotide of claim 10.
12. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 10, the method comprising:
- a) hybridizing the sample with a probe comprising at least 16 contiguous nucleotides
- 20       comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide, and
- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.
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13. A method of claim 12, wherein the probe comprises at least 30 contiguous nucleotides.
14. A method of claim 12, wherein the probe comprises at least 60 contiguous nucleotides.
- 30       15. A pharmaceutical composition comprising an effective amount of a polypeptide of claim 1 and a pharmaceutically acceptable excipient.
16. A method for treating a disease or condition associated with decreased expression of functional HTMP, comprising administering to a patient in need of such treatment the pharmaceutical
- 35       composition of claim 15.

17. A method for screening a compound for effectiveness as an agonist of a polypeptide of claim 1, the method comprising:

- a) exposing a sample comprising a polypeptide of claim 1 to a compound, and
- b) detecting agonist activity in the sample.

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18. A pharmaceutical composition comprising an agonist compound identified by a method of claim 17 and a pharmaceutically acceptable excipient.

19. A method for treating a disease or condition associated with decreased expression of functional HTMP, comprising administering to a patient in need of such treatment a pharmaceutical composition of claim 18.

20. A method for screening a compound for effectiveness as an antagonist of a polypeptide of claim 1, the method comprising:

- a) exposing a sample comprising a polypeptide of claim 1 to a compound, and
- b) detecting antagonist activity in the sample.

21. A pharmaceutical composition comprising an antagonist compound identified by a method of claim 20 and a pharmaceutically acceptable excipient.

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22. A method for treating a disease or condition associated with overexpression of functional HTMP, comprising administering to a patient in need of such treatment a pharmaceutical composition of claim 21.

23. A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 4, the method comprising:

- a) exposing a sample comprising the target polynucleotide to a compound, and
- b) detecting altered expression of the target polynucleotide.

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